

What is Claimed is:

1. An electric oven comprising:
 - an outer case having a door mounted in a front part thereof;
 - an inner case in the outer case, the inner case having a cooking cavity therein, and a plurality of holes in an upper part thereof;
 - a heater cover in the upper part of the inner case over the holes;
 - at least one heater under the heater cover;
 - a fan housing attached to an inside wall of the inner case, the fan housing having a plurality of apertures; and
 - a fan between the fan housing and an inside wall of the inner case, for drawing air from the cooking cavity and blowing a portion, or all of the air toward the heater.
2. The electric oven as claimed in claim 1, wherein the heater and the fan housing are arranged opposite to the door.
3. The electric oven as claimed in claim 2, wherein the apertures include;
 - a plurality of first apertures in a front surface of the fan housing, and
 - at least one second aperture in an upper surface of the fan housing.
4. The electric oven as claimed in claim 2, wherein the holes include;
 - first holes formed in a part opposite to the door, and
 - second holes between the first holes and the door.
5. The electric oven as claimed in claim 4, wherein the heaters include;

a first heater arranged over the first holes, and
a second heater arranged over the second holes.

6. The electric oven as claimed in claim 5, wherein the first heater is a halogen heater,
and the second heater is a ceramic heater.

7. The electric oven as claimed in claim 2, further comprising:
third holes in the upper part of the inner case adjacent to the door;
a second heater cover over the third holes; and
a third heater between the second heater cover and the third holes.

8. The electric oven as claimed in claim 1, further comprising:
at least one fourth heater between the fan housing and the inside wall of the inner
case.

9. The electric oven as claimed in claim 8, wherein the fourth heater includes at least
one of a sheath grill heater and the ceramic heater.

10. The electric oven as claimed in claim 1, wherein the heaters are provided in
spaces in communication with each other.

11. The electric oven as claimed in claim 1, further comprising a temperature sensor
under the heater cover.

12. The electric oven as claimed in claim 1, further comprising a fifth heater provided along a space in the upper part of the cooking cavity.

13. The electric oven as claimed in claim 12, wherein the fifth heater is a sheath grill heater.

14. A method for controlling an electric oven, comprising:
making a halogen heater and a ceramic heater to generate heat in starting cooking, the halogen heater and the ceramic heater being provided in an upper part of an inner case having a cooking cavity formed therein;
measuring a temperature of the halogen heater; and
comparing the measured temperature of the halogen heater and a preset temperature, to make a sheath grill heater in the cooking cavity to generate heat, if the temperature of the halogen heater is lower than the preset temperature, and to cut off power to the sheath grill heater, if the temperature of the halogen heater is higher than the preset temperature.

15. An electric oven comprising:
an outer case having a door mounted in a front part thereof, and air inlet holes and air outlet holes formed therein;
an inner case in the outer case, the inner case having a cooking cavity therein, and a plurality of holes in an upper part thereof;
a heater cover in the upper part of the inner case over the holes;
at least one heater under the heater cover; and
a fan between the inner case and the outer case, for drawing air through the air inlet

holes and discharging the air through the air outlet holes to cool the inner case and the heater cover.

16. The electric oven as claimed in claim 15, wherein the air inlet holes are formed at least in a lower part of a front surface of the outer case or a lower part of a rear surface, and the air outlet holes are in an upper part of a front surface of the outer case.

17. The electric oven as claimed in claim 15, wherein the fan is in an upper part of rear of the inner case for drawing air from a lower part and discharging toward a front part.

18. The electric oven as claimed in claim 15, further comprising at least one partition plate on an upper side of the heater cover for guiding air from the fan so that a flow of the air becomes a plurality of laminar flows.

19. The electric oven as claimed in claim 15, further comprising at least one partition plate for dividing a space on the upper side of the heater cover into a plurality of layers.

20. The electric oven as claimed in claim 19, wherein the at least one partition plate includes;

a first partition plate spaced a distance away from an upper surface of the heater cover, and

a second partition plate spaced a distance away from an upper surface of the first plate.

21. The electric oven as claimed in claim 20, wherein the first partition plate is bent so as to be in conformity with a part of the heater cover.

22. The electric oven as claimed in claim 19, wherein the partition plates have one ends arranged adjacent to the fan, and the other ends arranged adjacent to the air outlet holes.

23. The electric oven as claimed in claim 15, further comprising:
third holes in an upper part of the inner case adjacent to the door;
a fan housing over the third holes; and
a centrifugal fan between the fan housing and the third holes for blowing air from the cooking cavity to the heaters.

24. The electric oven as claimed in claim 15, wherein the holes include;
first holes formed in a side opposite to the door, and
second holes formed between the first holes and the door.

25. The electric oven as claimed in claim 24, wherein the heater includes;
a first heater over the first holes, and
a second heater over the second holes.

26. The electric oven as claimed in claim 25, wherein the first heater is a halogen heater and the second heater is a ceramic heater.

27. The electric oven as claimed in claim 15, further comprising:

a second fan housing attached to an inside surface of the inner case, the second fan housing having a plurality of apertures,

a second fan between the second fan housing and an inside wall of the inner case for drawing air from the cooking cavity, and blowing a portion or all of the air toward the heater, and

a fan motor between the inner case and the outer case for rotating the second fan.

28. The electric oven as claimed in claim 27, wherein the fan motor is arranged on a suction side of the fan so as to be cooled by the air introduced into the fan through the air inlet holes.

29. The electric oven as claimed in claim 27, wherein the apertures include;
a plurality of first apertures in a front surface of the fan housing, and
at least one second aperture in an upper surface of the fan housing.

30. The electric oven as claimed in claim 27, further comprising a sheath grill heater in an upper part of the cooking cavity.

31. A door for an electric oven comprising:

an air inlet hole in one side of a door frame for introduction of air circulating the electric oven;

an air outlet hole in the other side of the door frame for discharging the air to an outside of the electric oven, and

an air passage in the door to make the air inlet hole and the air outlet hole in

communication.

32. The door as claimed in claim 31, wherein the air inlet hole is in an upper side of the door frame.

33. The door as claimed in claim 31, wherein the air outlet hole is in a lower side of the door frame.

34. The door as claimed in claim 31, wherein the air passage is formed along a rear surface of a plate of glass in a front part of the door.

35. An electric oven comprising:
an outer case having air suction holes and air discharge holes formed therein;
an inner case in the outer case having a cooking cavity formed therein;
a fan between the inner case and the outer case for drawing air through the air suction holes and discharging the air through the air discharge holes; and
a door mounted to a front part of the outer case for opening/closing the cooking cavity, the door having an air inlet hole in one side of a door frame for introduction of air circulated by the fan, an air outlet hole in the other side of the door frame for discharging the air to an outside of the electric oven, and an air passage in the door to make the air inlet hole and the air outlet hole in communication.

36. The electric oven as claimed in claim 35, wherein the air discharge holes are formed right over the door.

37. The electric oven as claimed in claim 35, wherein the fan is arranged in an upper part of rear of the inner case for cooling an outfit chamber in a space between the upper part of the inner case and an upper part of the outer case.

38. The electric oven as claimed in claim 36, wherein the air inlet hole is in an upper side of the door frame.

39. The electric oven as claimed in claim 36, wherein the air outlet hole is in a lower side of the door frame.

40. The electric oven as claimed in claim 35, wherein the air passage is formed along a rear surface of a plate of glass in a front surface of the door.